**Major and minor products**

#### 1. Explain why Reaction 1 forms only a single organic product, but Reaction 2 forms a mixture of organic products.

#### 

#### 2. Explain why the reactions shown below, are classified as addition reactions.

#### 

#### Explain why compound A is the major product for the reaction above.

#### 3. For the following reaction:

#### 

#### Describe the product as major or minor and Explain your answer.

**4.** The hydrolysis of but-1-ene results in two different products, explain why.

In your answer you should include:

• identification of the major and minor products

• an explanation of why there are two possible products

• one of the products (either product C or product D) will undergo a reaction to form 2-chlorobutane (product E), identify which product (either product C or product D) and justify your answer

**5.** Compare and contrast the reaction of HCl with but-1-ene, CH2 = CH – CH2 – CH3,

and but-2-ene, CH3 – CH = CH – CH3.

Your answer must include:

• an explanation of the type of reaction occurring

• equations showing the structural formulae of all reactants and products

#### • a justification of why major and minor products form with one of these molecules, but not the other.

**6.** Discuss the reaction of HCl and Cl2 with but-1-ene, CH3– CH2– CH = CH2.

For each reaction you must include:

• an explanation of the type of reaction occurring   
• structural formulae of all organic product(s) formed, including major and minor products, if any.

© 2016 <http://www.chemicalminds.wikispaces.com>

NCEA questions and answers reproduced with permission from NZQA